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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte WILLIAM G. ARNOLD, BRIAN WARN, and LEONARD JON QUADRACCI

> Appeal 2015-007528 Application 13/411,389¹ Technology Center 3600

> > ____

Before HUBERT C. LORIN, ANTON W. FETTING, and BIBHU R. MOHANTY, Administrative Patent Judges.

LORIN, Administrative Patent Judge.

DECISION ON APPEAL

STATEMENT OF THE CASE

William G. Arnold, et al. (Appellants) seek our review under 35 U.S.C. § 134 of the final rejection of claims 21–38. We have jurisdiction under 35 U.S.C. § 6(b) (2002).

SUMMARY OF DECISION

We AFFIRM.

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¹ The Appellants identify The Boeing Company of Chicago, Illinois as the real party in interest. App. Br. 2.

THE INVENTION

Claim 21, reproduced below, is illustrative of the subject matter on appeal.

21. A method for identifying and interchanging interchangeable parts, the method comprising:

identifying a set of attributes for each part in a set of parts, wherein the set of attributes comprise a set of descriptions of a set of physical properties of the set of parts;

assigning a rank to each part in the set of parts based on a degree of correlation between the set of attributes for a part in the set of parts and a set of identified attributes to form a set of ranked parts;

identifying a set of interchangeable parts from the set of parts using the set of ranked parts; and

altering a physical platform by replacing a specified part with at least one of the set of interchangeable parts.

THE REJECTIONS

The Examiner relies upon the following as evidence of unpatentability:

Spencer	US 5,826,261	Oct. 20, 1998
Adegan	US 2005/0125261 A1	June 9, 2005
Roizen	US 7,765,178 B1	July 27, 2010

The following rejections are before us for review:

- 1. Claims 21–38 are rejected under 35 U.S.C. §101 as being directed to non-statutory subject matter.
- Claims 21–24, 27, 28, 30–33 and 36-38 are rejected under 35 U.S.C.§ 103(a) as being unpatentable over Adegan and Roizen.

- 3. Claims 25, 26, 34 and 35 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Adegan, Roizen, and Spencer.
- 4. Claim 29 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Adegan and Roizen.

ISSUES

Did the Examiner err in rejecting claims 21–38 under 35 U.S.C. § 101 as being directed to non-statutory subject matter?

Did the Examiner err in rejecting claims 21–24, 27, 28, 30–33 and 36–38 under 35 U.S.C. § 103(a) as being unpatentable over Adegan and Roizen?

Did the Examiner err in rejecting claims 25, 26, 34 and 35 under 35 U.S.C. § 103(a) as being unpatentable over Adegan, Roizen, and Spencer?

Did the Examiner err in rejecting claim 29 under 35 U.S.C. § 103(a) as being unpatentable over Adegan and Roizen?

ANALYSIS

The rejection of claims 21–38 under 35 U.S.C. § 101 as being directed to non-statutory subject matter.

The Appellants focus on claim 21. No other claim is argued. *See* App. Br. 5–9 and Reply Br. 1–8. Accordingly, we treat the rejected claims as a group and select claim 21, the claim the Appellants focus on, as the representative claim for this group. The remaining claims 22–38 stand or fall with claim 1. 37 C.F.R. § 41.37(c)(1)(iv).

Alice Corp. Pty. Ltd. v. CLS Bank International, 134 S. Ct. 2347 (2014) identifies a two-step framework for determining whether claimed subject matter is judicially-excepted from patent eligibility under § 101.

According to *Alice* step one, "[w]e must first determine whether the claims at issue are directed to a patent-ineligible concept," such as an abstract idea. *Alice*, 134 S. Ct. at 2355.

The Examiner found

The claim(s) is/are directed to the abstract idea of identifying interchangeable parts which falls under one or more of the following examples of an abstract idea are (i) a fundamental economic practice (e.g., hedging, insurance, financial transactions marketing, etc.), (ii) a method of organizing human activities, (iii) an idea of itself, or (iv) a mathematical relationship or formula (e.g. algorithms, spatial relationships, geometry), (IV) basic legal theories (e.g. contracts, dispute resolution, rules of law), (v) mental activity (e.g. forming a judgment, observation, evaluation, or opinion), (vi) instructing "how business should be conducted".

Final Act. 2–3. In the Answer, the Examiner elaborated:

In the instant case, claims 21 and 30 are directed to a method and an apparatus.

The claims are analyzed to determine whether it is directed to a judicial exception. The claims are directed to identifying a set of attributes for each part in a set of parts ...; assigning a rank to each part in the set of parts based on a degree of correlation ...; identifying a set of interchangeable parts from the set of parts using the set of ranked parts; and altering a physical platform by replacing a specified part with at least one of the set of interchangeable parts, this idea is similar to the basic concept of comparing new and stored information and using rules to identify options, which has been found by the court to be an abstract idea (see SmartGene, section IV.BA). Therefore the claims are to an abstract idea.

Ans. 3 (emphasis original).

The Appellants disagree. According to the Appellants:

Step 2A [per USPTO's patentability guidelines under 35 U.S.C. § 101 in view of the U.S. Supreme Court's decision in *Alice v. CLS Bank Corp.*] is to determine whether the claim is directed to a law of nature, a natural phenomenon, or an abstract idea. The result of this determination is that claim 21 is not directed to any of these problematic areas because the claim recites altering a physical platform by replacing a specified part with at least one of the set of interchangeable parts. Since the result of step 2A is "no", the claim qualifies as eligible subject matter under 35 U.S.C. § 101.

App. Br. 7. The Appellants submit that:

The idea expressed in claim 21 is embodied in the preamble, "A method for identifying and interchanging interchangeable parts, the method comprising." This idea is backed up by the claim limitation of actually interchanging physical parts. Thus, the idea expressed by claim 21 is directed to a process, and accordingly is statutory under step 1 of the required analysis. The error in the rejection is settled by the first question in the required analysis for patentability. Thus, the rejection should be reversed.

Reply Br. 4.

The Appellants' arguments are unpersuasive.

According to *Alice* step one, "[w]e must first determine whether the claims at issue are *directed to* a patent-ineligible concept," such as an abstract idea. *Alice*, 134 S. Ct. at 2355. Emphasis added.

The "directed to" inquiry [] cannot simply ask whether the claims *involve* a patent-ineligible concept, because essentially every routinely patent-eligible claim involving physical products and actions *involves* a law of nature and/or natural phenomenon—after all, they take place in the physical world. *See Mayo*, 132 S. Ct. at 1293 ("For all inventions at some level embody, use, reflect, rest upon, or apply laws of nature, natural phenomena, or abstract ideas.") Rather, the "directed to" inquiry applies a stage-one filter to claims, considered in light of the specification, based on whether "their character as a whole is directed to excluded subject matter." *Internet Patents Corp. v.*

Active Network, Inc., 790 F.3d 1343, 1346 (Fed. Cir. 2015); see Genetic Techs. Ltd. v. Merial L.L.C., 2016 WL 1393573, at *5 (Fed. Cir. 2016) (inquiring into "the focus of the claimed advance over the prior art").

Enfish, LLC v. Microsoft Corp., 822 F.3d 1327, 1335 (Fed. Cir. 2016). "The 'abstract idea' step of the inquiry calls upon us to look at the 'focus of the claimed advance over the prior art' to determine if the claim's 'character as a whole' is directed to excluded subject matter." Affinity Labs of Texas v. DirectTV, LLC, 838 F.3d 1253, 1257 (Fed. Cir. 2016) (quoting Elec. Power Grp., LLC v. Alstom S.A., 830 F.3d 1350, 1353 (Fed. Cir. 2016); see also Enfish, LLC v. Microsoft Corp., 822 F.3d 1327, 1335 (Fed. Cir. 2016).

According to the Specification, "when a user enters a relational database query to identify interchangeable parts in a set of parts catalogs, the relational database may be unable to accurately identify all duplicate and/or substitute parts for the specified part." Para. 8. "To avoid this problem, a human user can manually read through each parts catalog line by line to identify duplicate and substitute parts. However, parts catalogs can be of significant size. Therefore, this process can be time consuming, burdensome, and cost prohibitive." Para. 9. Accordingly, "it would be advantageous to have an improved computer implemented method, apparatus, and computer usable program code identifying interchangeable parts in catalogs." Para. 9. "Advantageous embodiments of the present invention provide a computer implemented method for identifying interchangeable parts in parts catalogs." Para. 10. The Specification is entirely devoted to describing embodiments to "provide a computer implemented method, apparatus, and computer usable program code for identifying interchangeable parts in parts catalogs." Para. 46. For example,

In one illustrative embodiment, a set of catalogs is searched for first attributes for a set of parts using an intelligent agent. The intelligent agent compares the first attributes for the set of parts to a set of second attributes for a selected part. A weight is assigned to each of the first attributes based on whether each of the first attributes is correlated to an attribute in the set of second attributes. Each part in the set of parts is ranked using the weight assigned to each attribute in the first attributes. A set of interchangeable parts is identified using the ranking for each part in the set of parts.

Para. 46.

Accordingly, in light of the Specification, the "'focus of the claimed advance over the prior art" is not reflected in "the claim limitation of actually interchanging physical parts" (Reply Br. 4; *see also* App. Br. 7) as the Appellants argue. Rather, considered in light of the Specification, the "focus of the claimed advance over the prior art" is on a more efficient approach for identifying interchangeable parts - as reflected in the scheme described by the first three steps ("identifying," "assigning," "identifying") of claim 21. Claim 21's "character as a whole" is directed to a more efficient approach for identifying interchangeable parts.

We agree with the Examiner that the more efficient approach for identifying interchangeable parts that the claims are directed to is excluded subject matter. The Examiner was correct is explaining that, more specifically, "the claims are directed to identifying a set of attributes for each part in a set of parts ...; assigning a rank to each part in the set of parts based on a degree of correlation ...; identifying a set of interchangeable parts from the set of parts using the set of ranked parts" (Ans. 3). It is important to emphasize that the first three steps of claim 21 are not attached to any device. They are reasonably broadly construed as covering mental steps. In

that regard, "mental processes are not patent-eligible subject matter because the 'application of [only] human intelligence to the solution of practical problems is no more than a claim to a fundamental principle." *CyberSource Corp. v. Retail Decisions, Inc.*, 654 F.3d 1366, 1371 (Fed. Cir. 2011).

Nevertheless, as the Examiner points out, the claimed scheme is similar in character to the ranking of available therapeutic treatment regimens to guide the selection of a therapeutic treatment regimen covered by the claims at issue in *SmartGene, Inc. v. Advanced Biological Labs.*, SA, 555 F. App'x 950 (Fed. Cir.), *cert. denied*, 135 S. Ct. 58, 190 L. Ed. 2d 32 (2014). There the court found "the mental steps of comparing new and stored information and using rules to identify medical options" to be an abstract idea. The same is true for the approach for identifying interchangeable parts that the claims here at issue are directed to.

Step two is "a search for an 'inventive concept'—i.e., an element or combination of elements that is 'sufficient to ensure that the patent in practice amounts to significantly more than a patent upon the [ineligible concept] itself." *Alice*, 134 S. Ct. at 2355 (alteration in original) (quoting *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 132 S. Ct. 1289, 1294 (2012)).

The Appellants argue that "the claim feature of 'altering a physical platform by replacing a specified part with at least one of the set of interchangeable parts" amounts to significantly more than the abstract idea itself. App. Br. 9. "[C]laim 21 amounts to 'significantly more' than simply identifying attributes, assigning a rank, and identifying a set of interchangeable parts because claim 21 adds meaningful limits on the results

of these abstract steps; namely, the alteration of a physical platform using parts identified by the other features of claim 21." Reply Br. 8.

The record belies the Appellants' view.

The claim limitation "altering a physical platform by replacing a specified part with at least one of the set of interchangeable parts" is not attached to any device. Thus, it reasonably broadly covers a manual step of replacing one item with another. The Specification does not suggest otherwise. There is scant discussion about "the field of actual manufacturing or rework of existing devices" (Reply Br. 5) and nevertheless the claim is not limited to it. The only disclosure mentioning "altering" is in the passage at para. 95:

If SME/engineer review 416 decides to alter a platform by replacing a specified part with an alternate or substitute part number for a specified part in the platform, revised parts catalog input 404 may be entered to update parts catalog data 406 with data regarding the replacement part.

Furthermore, given the Specification's near-complete focus on describing a more efficient approach for identifying interchangeable parts, said claim step of alternating a physical platform is fairly characterized as an insignificant post-solution activity whereby parts identified via the first three (mental) steps of claim 21 are used to (manually) replace a specified part. *Cf. Apple, Inc. v. Ameranth, Inc.*, 842 F.3d 1229, 1244 (Fed. Cir. 2016) ("the Board found such recitation of general manual modification to be insignificant post-solution activity.") A claim limitation to an insignificant post-solution activity, as in manually replacing a specified part after a replacement has been identified, does not serve to provide an inventive concept. *Id.*

We note the Appellants' discussion comparing the claimed method with the process for curing synthetic rubber found patent eligible in Diamond v. Diehr, 450 US 175 (1981). Reply Br. 6–8. But the two are not comparable. In *Diehr*, the claimed process involved "installing rubber in a press, closing the mold, constantly determining the temperature of the mold, constantly recalculating the appropriate cure time through the use of the formula and a digital computer, and automatically opening the press at the proper time. ... the computer use incorporated in the process patent significantly lessens the possibility of 'overcuring' or 'undercuring'". Diehr at 187. Claim 21 at issue does nothing more than present a scheme for identifying a part for replacing a specified part. Unlike the claimed process in *Diehr*, the solution here to the problem of identifying interchangeable parts is not rooted in technology but in the scheme defined by the first three (mental) steps that are claimed. Cf. DDR Holdings, LLC v. Hotels.com, L.P., 773 F.3d 1245, 1257 (Fed. Cir. 2014) ("[T]hese claims stand apart because they do not merely recite the performance of some business practice known from the pre-Internet world along with the requirement to perform it on the Internet. Instead, the claimed solution is necessarily rooted in computer technology in order to overcome a problem specifically arising in the realm of computer networks.").

We note the Appellants mean to show that the claimed process accomplishes a transformation as in *Dieh*r. (Reply Br. 7: "Like the rubber manufacturing example, claim 21 is eligible at step 1 because the claim recites a series of acts that effectuates an actual physical process.") But the Specification discloses that "[a]n interchangeable part is an identical part to

a specified part that has a different part number than the specified part" (para. 4). Replacing a part in a platform with an identical part does not transform the platform, notwithstanding it is "altered."

We also note that "Applicant is not attempting to pre-empt the field of comparing parts in an abstract sense, but is presenting a process of how to more efficiently replace parts." Reply Br. 5. But pre-emption is not a separate test.

To be clear, the proper focus is not preemption *per se*, for some measure of preemption is intrinsic in the statutory right granted with every patent to exclude competitors, for a limited time, from practicing the claimed invention. *See* 35 U.S.C. § 154. Rather, the animating concern is that claims should not be coextensive with a natural law, natural phenomenon, or abstract idea; a patent-eligible claim must include one or more substantive limitations that, in the words of the Supreme Court, add "significantly more" to the basic principle, with the result that the claim covers significantly *less*. *See Mayo* 132 S. Ct. at 1294. Thus, broad claims do not necessarily raise § 101 preemption concerns, and seemingly narrower claims are not necessarily exempt.

CLS Bank Int'l. v. Alice Corp. Pty. Ltd., 717 F.3d 1269, 1281 (Fed. Cir. 2013) (Lourie, J., concurring). See also Ariosa Diagnostics, Inc. v. Sequenom, Inc., 788 F.3d 1371, 1379 (Fed. Cir. 2015) ("[w]hile preemption may signal patent ineligible subject matter, the absence of complete preemption does not demonstrate patent eligibility."). Here, the Appellants do not persuasively show that any claim limitation supports viewing said focus and determination as not directed to an abstract idea but rather rooted in technology. Instead, the Appellants make a case for "presenting a process of how to more efficiently replace parts". Reply Br. 5. But that supports the Examiner's position. It does little to ensure that the claimed subject matter

as a whole amounts to significantly more than the abstract idea itself. While a more efficient approach may prevent pre-emption of all possible ways of replacing parts, it does not make the claimed subject matter any less directed to an abstract idea. *Cf. OIP Techs., Inc. v. Amazon.com, Inc.*, 788 F.3d 1359, 1362–1363 (Fed. Cir.) (*cert. denied*, 136 S. Ct. 701, 193 L. Ed. 2d 522 (2015)) ("[T]hat the claims do not preempt all price optimization or may be limited to price optimization in the e-commerce setting do not make them any less abstract."). Because we find the claimed subject matter covers patent-ineligible subject matter, the pre-emption concern is necessarily addressed. "Where a patent's claims are deemed only to disclose patent ineligible subject matter under the *Mayo* framework, []preemption concerns are fully addressed and made moot." *Ariosa Diagnostics*, 788 F.3d at 1379.

Finally, the Appellants state that "[t]he fact that the abstract limitations of claim 21 make claim 21 patentable under 35 U.S.C. § 102 and 35 U.S.C. § 103(a) does not detract from the fact that claim 21 is patentable under 35 U.S.C. § 101 due to what would otherwise be unpatentable steps under 35 U.S.C. § 101 if taken alone." Reply Br. 7.

Indeed, "[t]he 'novelty' of any element or steps in a process, or even of the process itself, is of no relevance in determining whether the subject matter of a claim falls within the § 101 categories of possibly patentable subject matter." *Diamond v. Diehr*, 450 U.S. 175, 188–89 (1981) (emphasis added); see also *Mayo*, 132 S. Ct. at 1303–04 (rejecting "the Government's invitation to substitute §§ 102, 103, and 112 inquiries for the better established inquiry under § 101"). Here, the jury's general finding that Symantec did not prove by clear and convincing evidence that three particular prior art references do not disclose all the limitations of or render obvious the asserted

claims does not resolve the question of whether the claims embody an inventive concept at the second step of *Mayo/Alice*.

Intellectual Ventures I LLC v. Symantec Corp., 838 F.3d 1307, 1315 (Fed. Cir. 2016).

The remaining arguments are unpersuasive as to error in the rejection. For the foregoing reasons, the rejection is sustained.

The rejection of claims 21–24, 27, 28, 30–33 and 36–38 under 35 U.S.C. § 103(a) as being unpatentable over Adegan and Roizen.

The rejection of claims 25, 26, 34 and 35 under 35 U.S.C. § 103(a) as being unpatentable over Adegan, Roizen, and Spencer.

The rejection of claim 29 under 35 U.S.C. § 103(a) as being unpatentable over Adegan and Roizen.

Both independent claims (claims 21 and 30) call for "identifying a set of attributes for each part in a set of parts." The Examiner found said claim limitation in Adegan at paras. 0045–0047, 0092, 0142, and claim 1. Final Act. 4. We have reviewed said disclosures but agree with the Appellants (App. Br. 12) that the evidence does not support it.

As the Appellants argue, "Adegan discloses cross referencing the same parts of different ID numbers, or perhaps by comparing different parts to the vehicle identification number of a vehicle from which a used part came. These numbers are not an 'attribute' for a part, but rather are mere identifiers." App. Br. 12. The Specification defines "attributes" thusly:

Attributes are discriminators used to compare part number descriptions for parts with different part numbers. Attributes include part-specific words, symbols, values, abbreviations, and attribute patterns.

Para. 71.

For example, if the specified part number description contains an attribute 2.5 inches for a fastener, prior art queries would only recognize free text descriptions that contained "2.5 inches".

Para. 72. Accordingly, the broadest reasonable construction of the claim terms "attributes" in light of the Specification as one of ordinary skill in the art would interpret it "are discriminators used to compare part number descriptions for parts with different part numbers." In that regard, we do not see "attributes," as that claim term is reasonably broadly construed, disclosed in the cited Adegan disclosures. They disclose, for example, "cross referencing the type of the used part with a used part identifier" and "identifying actual used parts corresponding to the new part by searching a used parts database based on the used parts identifier" (para. 142). But that is insufficient to find that Adegan discloses or would lead one to "identify[] a set of attributes for each part in a set of parts" as the claim term "attributes" is reasonably broadly construed.

For the foregoing reasons, a prima facie case of obviousness has not been made out in the first instance by a preponderance of the evidence for the subject matter of claims 21 and 30. We reach the same conclusion for the subject matter of the claims depending from claims 21 and 30.

The rejections are not sustained.

CONCLUSIONS

The rejection of claims 21–38 under 35 U.S.C. §101 as being directed to non-statutory subject matter is affirmed.

The rejection of claims 21–24, 27, 28, 30–33 and 36–38 under 35 U.S.C. § 103(a) as being unpatentable over Adegan and Roizen is reversed.

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The rejection of claims 25, 26, 34 and 35 under 35 U.S.C. § 103(a) as being unpatentable over Adegan, Roizen, and Spencer is reversed.

The rejection of claim 29 under 35 U.S.C. § 103(a) as being unpatentable over Adegan and Roizen is reversed.

DECISION

The decision of the Examiner to reject claims 21–38 is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED